

ABSTRACT OF THE DISCLOSURE

A receiver-dryer of an integrated receiver-dryer-condenser for an air-conditioning system that maximizes a liquid phase of refrigerant therein for return to a sub-cooling stage of a condenser. A receiver-dryer vessel includes a base wall, a side wall extending from the base wall, and a concave end wall terminating the side wall. A refrigerant inlet pipe extends into the interior of the vessel and terminates in an exit end that faces the concave end wall of the vessel. The refrigerant inlet pipe is adapted for directing refrigerant into contact with the concave end wall such that the refrigerant impinges on the concave end wall for improved dispersion into a gaseous phase that accumulates in the upper portion of the vessel and a liquid phase that flows down the walls of the vessel to accumulate in the lower portion of the vessel and for improved separation of the liquid phase and to return to the sub-cooling stage of the condenser for improved sub-cooling of the liquid phase of the refrigerant.